

## CLAIMS

What is claimed is:

1           1.       A method for managing an asynchronous transfer mode (ATM) cell,  
2 comprising:

3           transmitting the ATM cell from a server system to a broadband modem; and

4           forwarding the ATM cell from the broadband modem to a client system.

1           2.       The method of Claim 1, further comprising checking a header error control  
2 (HEC) field in the ATM cell for corruption before forwarding the ATM cell to the client  
3 system.

1           3.       The method of Claim 1, further comprising processing the ATM cell at the  
2 client system to retrieve raw data from a payload section of the ATM cell.

1           4.       The method of Claim 1, wherein the broadband modem is an asymmetric  
2 digital subscriber line (ADSL) modem.

1           5.       The method of Claim 1, wherein the broadband modem is a cable modem.

1           6.       The method of Claim 1, wherein the ATM cell is forwarded to the client  
2 system via an Ethernet connection.

1           7.       The method of Claim 1, wherein the ATM cell is forwarded to the client  
2 system via a Universal Serial Bus (USB) connection.

1           8.       The method of Claim 1, wherein the ATM cell is forwarded to the client  
2 system via a IEEE 1394 connection.

1           9.     A method for managing an asynchronous transfer mode (ATM) cell,  
2 comprising:

3           transmitting the ATM cell from a client system to a broadband modem; and  
4           forwarding the ATM cell from the broadband modem to a server system.

1           10.    The method of Claim 9, further comprising generating the header error  
2 control (HEC) field before forwarding the ATM cell to the server system.

1           11.    The method of Claim 9, further comprising processing the ATM cell at the  
2 client system to segment data into a payload of section of the ATM cell.

1           12.    A method for managing a broadband modem, comprising:  
2           transmitting a discovery signal over a connection;  
3           entering a connect state in response to receiving a discovery acknowledge signal;  
4           recording a media access control (MAC) address corresponding to the broadband  
5 modem that transmitted the discovery acknowledge signal in response to the discovery  
6 signal; and  
7           transmitting a terminate message to other broadband modems connected to the  
8 connection.

1           13.    The method of Claim 12, further comprising specifying data formats that  
2 may be supported in the discovery signal.

1           14.    The method of Claim 12, further comprising recording a data format  
2 selected by the broadband modem in the discovery acknowledge signal.

1           15.     The method of Claim 12, further comprising:  
2           sending a poll message to the broadband; and  
3           entering a disconnect state if a poll acknowledge message is not received in  
4           response to the poll message within a predefined period of time.

1           16.     The method of Claim 12, further comprising transmitting a sleep message to  
2           the broadband modem indicating that its binding client system is about to enter into a sleep  
3           state.

1           17.     A method for managing a broadband modem, comprising  
2           transmitting a discovery acknowledge signal over a transmission medium in  
3           response to receiving a discovery signal from a client system; and  
4           entering a connect state.

1           18.     The method of Claim 17, further comprising specifying a data format that  
2           may be supported by the broadband modem among data formats specified in the discovery  
3           signal.

1           19.     The method of Claim 17, further comprising:  
2           transmitting a poll acknowledge message to the client computer system in response  
3           to receiving a poll message; and  
4           entering a disconnect state if the poll message is not received within a predetermined  
5           period of time.

1           20.     The method of Claim 17, further comprising forwarding asynchronous  
2           transfer mode (ATM) cells between the client system and a asymmetric digital subscriber  
3           line (ADSL).

1           21.    The method of Claim 20 further comprising generating and verifying a  
2   header error control (HEC) field in the ATM cell.

1           22.    The method of Claim 17, further comprising entering into a sleep state and  
2   disabling an activity timer upon receiving a sleep message from the client system.

1           23.    The method of Claim 22, further comprising:  
2           entering into the connect state upon receiving a wake-up event from a second client  
3   system; and  
4           entering into a disconnect state if the poll message is not received from the client  
5   system within the predetermined period of time.

1           24.    A computer-readable medium having stored thereon a sequence of  
2   instructions, the sequence of instructions including instructions which, when executed by a  
3   processor, causes the processor to perform the steps of:  
4           transmitting a discovery signal over a connection;  
5           entering a connect state in response to receiving a discovery acknowledge signal;  
6           recording a media access control (MAC) address corresponding to the broadband  
7   modem that transmitted the discovery acknowledge signal in response to the discovery  
8   signal;  
9           transmitting a terminate message to other broadband modems connected to the  
10   connection.

1           25.    The computer-readable medium of Claim 24, further comprising  
2   instructions which, when executed by the processor, causes the processor to perform the  
3   step of specifying data formats that may be supported in the discovery signal.

1           26.    The computer-readable medium of Claim 24, further comprising  
2 instructions which, when executed by the processor, causes the processor to perform the  
3 step of recording a data format selected by the broadband modem in the discovery  
4 acknowledge signal.

1           27.    The computer-readable medium of Claim 24, further comprising  
2 instructions which, when executed by the processor, causes the processor to perform the  
3 steps of:  
4           sending a poll message to the broadband modem; and  
5           entering a disconnect state if a poll acknowledge message is not received in  
6 response to the poll message within a predefined period of time.

1           28.    A computer system, comprising:  
2 a bus;  
3 a processor coupled to the bus;  
4 a network controller coupled to the bus;  
5 a broadband modem coupled to the network controller via a connection;  
6 an Asynchronous Transfer Mode (ATM) unit, coupled to the bus, that performs  
7 ATM signaling, segmentation, and re-assembly procedures on ATM cells forwarded  
8 between the broadband modem and the network controller.

1           29.    The computer system of Claim 28, further comprising a broadband modem  
2 access protocol unit, coupled to the bus, that discovers an identity of a broadband modem  
3 coupled to the connection.